

WHAT IS CLAIMED IS:

1. A high performance, high capacitance gain, electric connector for data transfer applications, which comprises:

at least eight sequentially positioned elongate contact members connected in a plurality of signal pairs;

a first signal pair including a fourth contact member and a fifth contact member, and a second signal pair comprising a third contact member and a sixth contact member;

each of the third and fifth contact members mounting a plate-like extension oriented in a first direction and in respective planes generally parallel to one another, each pair of extensions being separated by a first dielectric having a relatively high dielectric value such that a first high gain capacitor is formed;

each of the fourth and sixth contact members mounting a plate-like extension oriented in a second direction and in respective planes generally parallel to one another, each pair of extensions being separated by a second dielectric having a relatively high dielectric value such that a second high gain capacitor is formed;

the first direction being generally convergent with the second direction; and
each contact member of each contact member pair including a plug engaging portion and a board engaging portion, the plurality of contact members having a selected shape, being arranged relative to one another, and being housed collectively by a dielectric casing so as to minimize crosstalk during high frequency data transfer.

2. The electric connector set forth in claim 1 wherein at least one of the dielectrics comprises a polymeric material.

3. The electric connector set forth in claim 1 wherein the casing comprises a polymeric material having a relatively high dielectric value.

4. The electric connector set forth in claim 1 wherein at least one of the conductive members includes commercially pure copper.

5. The electric connector set forth in claim 1 wherein at least one of the capacitors is a flat plate capacitor.

6. The electric connector set forth in claim 1 wherein each conductive member having a plate-like extension is formed with the extension as a one piece unit.

7. The electric connector set forth in claim 1 wherein the total surface area of the extensions of the first capacitor is generally equivalent to that of the second capacitor extensions.

8. The electric connector set forth in claim 1 wherein the total surface area of the extensions of the first capacitor is generally unequal to that of the second capacitor extensions.

9. A high performance, high capacitance gain, electric connector for data transfer applications, which comprises:

at least eight sequentially positioned contacts connected in a plurality of signal pairs;

a first signal pair including a fourth contact and a fifth contact, a second signal pair comprising a third contact and a sixth contact, a third signal pair including a first contact and a second contact, and a fourth signal pair having a seventh contact and an eighth contact;

one contact of each pair being configured differently from the other contact of the pair, and the respective contacts of each pair being oriented relative to one another such that they substantially remain in generally parallel planes, but define non-parallel paths;

one contact of each of the first, third and fourth signal pairs crossing over the other contact of the pair so as to reverse the positions occupied by the respective contacts along their non-parallel paths;

each of the third and fifth contacts mounting a plate-like extension oriented in a first direction and in respective planes generally parallel to one another, each pair of extensions being separated by a first dielectric such that a first capacitor is formed;

each of the fourth and sixth contacts mounting a plate-like extension oriented in a second direction and in respective planes generally parallel to one another, each pair of extensions being separated by a second dielectric such that a second capacitor is formed;

the first direction being generally convergent with the second direction; and
each contact of each contact pair including a plug engaging portion and a board engaging portion, the plurality of contacts having a selected shape, being arranged relative to one another, and being housed collectively by a dielectric casing so as to minimize crosstalk during high frequency data transfer.

10. A method of inhibiting electromagnetic interference during transfer of data between electronic devices, the method comprising the steps of;

- i. joining a first electric device to a jack connector;
- ii. joining a second electric device to a plug connector; and

iii. inserting the plug connector into the jack connector such that an electrical connection is established between the first and second electric devices, the jack connector including a plurality of contacts sequentially arranged and connected in at least two signal pairs, a first signal pair comprising a second contact and a third contact, and a second signal pair including a first contact and a fourth contact;

each of the first and third contacts mounting a plate-like extension oriented in a first direction and in respective planes generally parallel to one another, each pair of extensions being separated by a first dielectric such that a first capacitor is formed;

each of the second and fourth contacts mounting a plate-like extension oriented in a second direction and in respective planes generally parallel to one another, each pair of extensions being separated by a second dielectric such that a second capacitor is formed, the first direction being generally convergent with the second direction; and

each contact of each contact pair having a plug engaging portion and a board engaging portion, the plurality of contacts having a selected shape, being arranged relative to one another, and being housed collectively by a dielectric casing so as to minimize crosstalk during data transfer.

11. A plurality of elongate contact members for use in a jack connector for high performance data transfer:

the contact members including wires arranged sequentially and connected in a series of signal pairs;

a first signal pair comprising a first contact member and a third contact member, the first and third contact members each mounting a plate-like extension oriented in a first direction and in respective planes generally parallel to one another, each pair of extensions being separated by a first dielectric having a relatively high dielectric value such that a first high gain capacitor for minimizing crosstalk is formed; and

a second signal pair having a second contact member and a fourth contact member, the second and fourth contact members each mounting a plate-like extension oriented in a second direction and in respective planes generally parallel to one another, the first direction being generally convergent with the second direction, and each pair of extensions being separated by a second dielectric insert having a relatively high dielectric value such that a second high gain capacitor for minimizing crosstalk is formed.

12. An electric connector for high performance data transfer which comprises a plurality of elongate contact member pairs, generally flat plate capacitors being positioned within alternating members of at least two of the contact member pairs so as to enhance crosstalk reduction during data transfer.